

REMARKS/ARGUMENTS

Claims 60, 62-73, 78-85, 88, 91, 94-96, 100-105, 107, and 108 are pending in this application, with claims 60 and 88 being the only independent claims. Reconsideration of the above-identified application, as herein amended and in view of the following remarks, is respectfully requested.

Claim Amendments

Claims 60 and 88 are each amended to recite “pigment particles having an average size in the range of 15 to 25 nm”. Support for this amendment is found in dependent claims 61 and 89, which are now canceled without prejudice or disclaimer.

Rejection of Claims under 35 U.S.C. §103

Claims 60, 62-70, 78 and 81 stand rejected under 35 U.S.C. §102 as anticipated by, or in the alternative, under 35 U.S.C. §103 as obvious over U.S. Patent No. 6,413,591 (Dettling) in view of the article *Paper, Its making, merchanting and usage*, 3rd ed, The National Association of Paper Merchants, London, 1974 (Haylock) and WO 97/32934 (Virtanen).

Claims 65-70 stand rejected under 35 U.S.C. §103 as unpatentable over Dettling in view of Haylock and Virtanen.

Claims 73, 88-89, 91, 94, 100, and 103 stand rejected under 35 U.S.C. §103 as unpatentable over Dettling in view of Haylock and WO 98/11999 (Ilmasti).

Claims 79-80 and 101-102 stand rejected under 35 U.S.C. §103 as unpatentable over Dettling in view of Haylock and further in view of Ilmasti and U.S. Patent No. 4,944,959 (Yagi).

Claims 107 and 108 stand rejected under 35 U.S.C. §103 as unpatentable over Dettling in view of Haylock and further in view of Ilmasti and WO 95/18885 (Anderson).

Independent claims 60 and 88 have each been amended to recite that the average size of the pigment particles is in the range of 15 to 25 nm. This limitation is previously recited in claims 61 and 89, which are now canceled.

In the rejection of claims 61 and 89, the Examiner relies on Dettling which discloses that the inorganic pigment material preferably has a particle size in the range of 40 nm to 2 μ m (see col. 6, lines 4-5). The Examiner acknowledges that the disclosed range of Dettling is different from the claimed range but alleges that Dettling discloses that other sizes may also be used, presumably because the term “preferred” is used by Dettling. However, even if this phrase is considered to allow other sized particles, there is no definition or specific teaching of what other sizes, if any, can be used. Since there is no specific teaching in Dettling for particle sizes in the range of 15 to 25 nm as now expressly recited in independent claims 60 and 88, Dettling fails to anticipate these independent claims under 35 U.S.C. §102 (see MPEP 2131.03 which states that a prior art range that does not overlap or touch the claimed range does not anticipate the claimed range).

Furthermore, Dettling also fails to provide a *prima facie* case of obviousness because the claimed range does not overlap or lie inside the ranges disclosed by the prior art (see MPEP 2144.05). As stated above, the claimed range of 15 to 25 nm is wholly outside of the range disclosed by Dettling. Furthermore, page 17, lines 11-14 of the application as originally filed discloses that the pigment particles of the present invention may be applied in dry form. Thus, the particles size is required to be so small to allow adherence to be accomplished by van der Waals forces (see page 17, lines 2-5 of the application as originally filed). In contrast, Dettling relates to a wet coating of paper (see the abstract which states that the coated web is dried). Accordingly, there is no reason in Dettling to have such small particles. For all of the above reasons, independent claims 60 and 88 are also not obvious over Dettling.

The other cited references fail to teach or suggest what Dettling lacks. Haylock is a general description of paper making and does not disclose a specific particle size. Ilmasti and Anderson also fails to disclose a specific particle size. Virtanen discloses a particle size in the range of 30-400 nm and Yagi discloses a particle size of at least 1 μm . Thus, the claimed range also fails to overlap or lie inside the disclosed ranges of Virtanen and Yagi. Accordingly, The combined teachings of Dettling in view of Haylock, Virtanen, Ilmasti, Anderson, and Yagi fail to make a *prima facie* case of obviousness. Accordingly, independent claims 60 and 88 are also not obvious over the prior art of record.

Dependent claims 62-73, 78-85, 91, 94-96, 100-105, 107, and 108 are allowable for the same reasons as are independent claims 60 and 88, as well as for the additional recitations contained therein.

Dependent claim 73 further recites “a solids content of the treatment material is at least 80 %”. As stated above, the present invention can be coated with the particles in dry form with a solids content of at least 80% (see page 17, lines 11-14 of the application as originally filed). In contrast, Dettling relates to a wet coating of paper (see the abstract of Dettling which states that the coated web is dried). Thus, Dettling fails to teach or suggest the limitations of claim 73.

In view of the above amendments and remarks, the application is now deemed to be in condition for allowance and notice to that effect is solicited.

It is believed that no fees or charges are required at this time in connection with the present application. However, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,
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